

With respect to this rejection under 35 U.S.C. § 103 (a), it is submitted that the art assembled by the Examiner in the parent application does not show the invention defined in the present claims.

The primary reference, United States Patent 5,210,153 to Manser and Miller is entitled Thermoplastic elastomers having alternative crystalline structure for use as high energy binders. This reference shows a number of such elastomers including those employed in the present invention. But unlike the present invention, the Manser and Miller reference teaches the polymerization of a specific structure from these monomers with block polymers having a crystalline structure, or "A" type, surround a block polymer having an amorphous structure, or "B" type, to form an ABA triblock polymer.

Such polymers are not employed in the present invention and it is not seen how such teaching has relevance. At most, the reference shows that monomers such as 3,3-bis(azidomethyl)oxetane (BAMA) and 3-azidomethyl-3-methyloxetane (AMMO) have application in high energy binders. The reference does not describe a two propellant formulation having different burn rates using such ABA block polymers, and does not suggest that such complex triblock polymers could be employed in such an application.

Four secondary references are cited. United States Patent 5,587,553 to Braithwaite, Lund and Wardle is entitled High performance pressable explosive compositions. This reference shows pressable compositions of a liquid polymer with an oxidizer. Poly(bis(azidomethyl)oxetane) (poly-BAMO) and poly(bis(difluoroaminomethyl)oxetane) (poly-AMMO) are two of the disclosed polymers, but the monomeric forms of these materials are not employed, as they are in the present invention. Several of the filler materials of the present invention are shown, but these materials are well known to the art and no claim is made to these materials in the present invention outside the two propellant compositions defined in the claims. The reference does not disclose and does not suggest a two propellant composition where each propellant has a different burn rate. Certainly, nothing in the combination of the primary Manser and Miller reference and the secondary Braithwaite, Lund and Wardle reference shows a two propellant system with different burn rates and the requirement that one burn rate be three time faster than the other.

United States Patent 5,529,649 is entitled Insensitive High Performance Explosive Compositions. This reference shows the use of 4,10-dinitro-2,6,8,12-tetraoxa-4,10-diazatetra-cyclo[5.5.0.0^{5,9}0^{3,11}]-dodecane in explosive applications. Polymeric and copolymeric forms of the binders of the present invention are suggested in combination with the disclosed explosive, a "cage" compound, as are many of the fillers. But nothing in the reference, or in the combination of this secondary reference with the primary reference to Manser and Miller, shows a two propellant system with different burn rates and the requirement that one burn rate be three times faster than the other.

United States Patent 5,716,557 is entitled Method of Making High Energy Explosives and Propellants. This reference shows a method for forming high energy explosives by permitting an explosive filler to dissolve or plastisize in a molten high

energy binder. This is the basic technology employed in preparing each of the first and second propellant compositions of the present invention. But nothing in the reference, or in the combination of this reference with the primary reference to Manser and Miller, shows a two propellant system with different burn rates and the requirement that one burn rate be three times faster than the other.

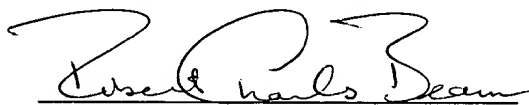
United States Patent 5,690,868 is entitled Multi-Layer High Energy Propellants. This reference is probably the closest reference in the prior art, and shows a multi-layer propellant composition comprising two separately formulated propellants having high energy and different burn rates. But the compositions are separately formulated and remain separate, in separate layers, and the burn rate of one only needs to be twice the rate of the other. Nothing in the reference, or in the combination of this reference with the primary reference to Manser and Miller, shows a two propellant mixture with different burn rates and the requirement that one burn rate be three times faster than the other.

It is submitted, therefore, that none of the references that were cited in the parent application, either alone or in combination, anticipate the claims of the present invention or render them obvious. It is further submitted that the claims in their present form patentably distinguish over the cited art.

WHEREFORE, examination and early allowance are respectfully requested.

Respectfully,

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Robert Charles Beam, Esq.

Reg. No. 28,182

Attorney for Applicant

Telephone: (973) 724-3411

Facsimile: (973) 724-5552

e-mail: rbeam@pica.army.mil

Mailing Address:
U.S. Army ARDEC
Attn: AMSTA-AR-GCL
R. Beam / Building 3
Picatinny Arsenal, New Jersey 07806-5000